RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

Name of Work : Restoration and Improvements of Balance Roads of Brundhavana Layout, Balaji Layout, BHEL 1st Phase and 2nd Phase Layout, Lakshmaiahreddy Layout, Naidu Layout, Jyothinagara 2nd and 3rd Phase, Ramanna Garden and Surrounding areas in ward no.-03 of Yelahanka New Town Sub Division. (PACKAGE NO-07).

Client Name	:	**Executive Engineer,** Yelahanka Division, BBMP, Bangalore.
***Contractor Name**	:	**Sri. Mohan Kumar S.R,** Contractor, Bangalore.
Date of Inspection	:	28.07.2022
Status of Bill	:	2nd & Final Bill
In the Presence of	:	(a) **Executive Engineer,** Yelahanka Division, BBMP, Bangalore.
		(b) **Mr. Dhanush,** Site Engineer, M/s. RNC Consultant, Bangalore.
		(c) **Sri. Mohan Kumar S.R,** Contractor, Bangalore.

PMC COMPLIANCE REPORT

Sl.No	Decription	Unit	QTY	Comments / observations
1	Earthwork excavation by manual means for roads, drains & similar works.....	Cum	1389.49	Work done up to the billed quantity and Quality is satisfactory
2	Providing and laying in position plain cement concrete of Mix 1:4:8 with OPC Cement....	Cum	85.86	Work done up to the billed quantity and Quality is satisfactory
3	Providing TMT Bars Fe 500 steel reinforcement for R.C.C. work.....	Tonne	25.18	Work done up to the billed quantity and Quality is satisfactory
4	Providing and laying plain/reinforced cement concrete for side drains using M20 nominal mix concrete with OPC Cement.....	Cum	383.06	Work done up to the billed quantity and Quality is satisfactory
5	Providing and Fixing Pre cast covering Slab 100mm thick made out of CC, jelly 20mm Down size with steel reinforcement.....	Sqm	1028.70	Work done up to the billed quantity and Quality is satisfactory
6	Removing and refixing Stone Slabs of drains and pointing in CM(1:3).	Sqm	0.00	Work done up to the billed quantity and Quality is satisfactory
7	Providing one line dressing to granite stone slab/granite stone masonry as per Specifications.	Sqm	0.00	Work done up to the billed quantity and Quality is satisfactory
8	Providing and fixing RCC precast cover slab of 230mm thick for drain in cement concrete 1:1.5:3.....	Sqm	65.70	Work done up to the billed quantity and Quality is satisfactory

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Sl.No	Decription	Unit	QTY	Comments / observations
9	Providing and laying in position plain cement concrete of Mix 1:2:4 with OPC Cement....	Cum	57.71	Work done up to the billed quantity and Quality is satisfactory
10	Providing and fixing pre cast solid cement concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165 mm respectively,.....	Nos	9624.00	Work done up to the billed quantity and Quality is satisfactory
11	Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces,...	Sqm	908.58	Work done up to the billed quantity and Quality is satisfactory
12	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity.....	Cum	5863.74	Work done up to the billed quantity and Quality is satisfactory
13	Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller.....	Sqm	14630.44	Work done up to the billed quantity and Quality is satisfactory
14	Construction of embankment with approved material Gravel /Murrum with all lifts and leads,....	Cum	0.00	Work done up to the billed quantity and Quality is satisfactory
15	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates....	Cum	3001.88	Work done up to the billed quantity and Quality is satisfactory
16	Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to wet mix macadam.....	Cum	2926.09	Work done up to the billed quantity and Quality is satisfactory
17	Providing and applying primer coat with S.S. bitumen emulsion on prepared surface of granular base....	Sqm	15515.37	Work done up to the billed quantity and Quality is satisfactory
18	Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading,.....	Cum	775.77	Work done up to the billed quantity and Quality is satisfactory
19	Providing and applying tack coat using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm,....	Sqm	15515.37	Work done up to the billed quantity and Quality is satisfactory

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Sl.No	Decription	Unit	QTY	Comments / observations
20	Providing and laying bituminous concrete using crushed aggregates of specified grading, premixed with bituminous binder and filler,....	Cum	620.61	Work done up to the billed quantity and Quality is satisfactory
21	Road Marking with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface....	Sqm	683.74	Work done up to the billed quantity and Quality is satisfactory
22	Supply and Installtion of Moulded Shank Raised Pavement Markers made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene).....	Nos	0.00	Work done up to the billed quantity and Quality is satisfactory
EIRL				
1	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers,.....	Cum	1080.62	Work done up to the billed quantity and Quality is satisfactory
2	Providing and laying in position plain cement concrete of Mix 1:4:8 with OPC @ 180kgs, ...	Cum	810.47	Work done up to the billed quantity and Quality is satisfactory
3	Cement concrete pavement Construction of un-reinforced plain cement concrete pavement,Thickness as per design, over a prepared sub base with 53 grade cement or any other type as per clause 1501.2.2 M30 (Grade).....	Cum	810.47	Work done up to the billed quantity and Quality is satisfactory

AE

Authorised Signatory

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON CEMENT

RNC No.	: RNC-BBMP-374-2021-22
Date.	: 20.06.2022
Client Name	: **Assistant Executive Engineer,** Yelahanka Sub division, BBMP, Bangalore.
***Contractor Name**	: **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name	: Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS-4031 (Part -1, 3, 4, 5 & 6) 1988 (RA-2014)
Material description	: Birla Super OPC 53 grade Cement
Date of Reciept of	: 20.06.2022
Date of testing	: 20.06.2022

TEST RESULTS

Sl.No	Physical Parameters	Test Results	Requirements as per IS: 269-2015
1	Consistancy	29.00%	-
2	Initial Setting Time	185 minutes	Not Less than 30 Minutes
3	Final Setting Time	425 minutes	Not More than 600 Minutes
4	Soundness by Le - Chatelier's Method	1 mm	Not more than 10mm
5	Fineness by Dry Sieving Method	6.56%	Not more than 10%

*Data Specified by Contractor.

Remarks : The above tested Sample Confirms as per IS Specifications.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON COARSE AGGREGATES

RNC No. : RNC-BBMP-374-2021-22
Date. : 20.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-1)- 1963 RA 2016
Material description : 20mm Coarse Aggregates
Date of Reciept of Sample : 20.06.2022
Date of testing : 20.06.2022

TEST RESULTS

Total Wt. of Aggregates in gms 5000

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Requirements as per IS 383:2021
40	0	0	0	100	100
20	177	177	3.54	96.46	95-100
10	2667	2844	56.88	43.12	25-55
4.75	2130	4974	99.48	0.52	0-10

* Data specified by Contractor.

Remarks : The above tested Sample Confirms as per IS Specifications.

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TEST REPORT ON COARSE AGGREGATES

RNC No. : RNC-BBMP-374-2021-22
Date. : 20.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-1)- 1963 RA 2016
Material description : 40mm Coarse Aggregates
Date of Reciept of Sample : 20.06.2022
Date of testing : 20.06.2022

TEST RESULTS

Total Wt. of Aggregates in gms 15000

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Requirements as per IS 383:2021
80	0	0	0	100	100
40	349	349	2.33	97.67	95-100
20	8569	8918	59.45	40.55	30-70
10	3517	12435	82.90	17.10	10-35
4.75	2144	14579	97.19	2.81	0-5

* Data specified by Contractor.

Remarks : The above tested Sample Confirms as per IS Specifications.

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TEST REPORT ON FINE AGGREGATES

RNC No. : RNC-BBMP-374-2021-22
Date. : 21.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-1)- 1963 RA 2016, IS 2116-1980
Material description : Sand for Masonry
Date of Reciept of Sample : 21.06.2022
Date of testing : 21.06.2022

TEST RESULTS

Total Wt. of Aggregates in gms 1500

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Spec.Limits IS 2116-1980
4.75	0	0	0.00	100.00	100
2.36	88	88	5.87	94.13	90-100
1.18	165	253	16.87	83.13	70-100
600 Micron	436	689	45.93	54.07	40-100
300 Micron	562	1251	83.40	16.60	5-70
150 Micron	178	1429	95.27	4.73	0-15

* Data specified by Contractor.

Remarks : The above tested Sample Confirms as per IS Specifications.

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RNC CONSULTANT

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TEST REPORT ON STEEL

RNC No. : RNC-BBMP-374-2021-22
Date. : 22.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP,
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS- 1786 :2008 IS 1608:2005, IS 1599:1985 (RA-2018)
Material description : Steel (8mm, 10mm, and 12mm dia TMT Bars "Fe 500")
Date of Reciept of : 22.06.2022
Date of testing : 22.06.2022

TEST RESULTS

Sl.No	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
			0.20 % proof stress/ yield stress ($N/mm^{2)}$	Tensile strength ($N/mm^{2)}$	Elongation, percent on gauge length
1	8	0.396	531	561	15
2	10	0.617	559	583	16
3	12	0.892	573	614	17

*Data Specified by Contractor.

Remarks : The above tested Sample Confirms as per IS Specifications.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON PRECAST SLAB

RNC No. : RNC-BBMP-374-2021-22
Date. : 22.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Referenc : IS 516 - 1959 RA 2018
Material descriptio : Precast Slab 230mm thick
Date of Reciept of Sample : 22.06.2022
Date of testing : 22.06.2022

TEST RESULTS

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	100.00	115.50	2.321	2558.61	1.16	0.960	131.82	16.78	17.29	16.60	20.74
2	100.00	118.00	2.335	2519.5	1.18	0.960	135.37	17.24	17.75	17.04	21.30
3	100.00	121.00	2.398	2523.33	1.21	0.960	134.33	17.10	17.62	16.91	21.14

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON KERB STONE

RNC No. : RNC-BBMP-374-2021-22
Date. : 23.06.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Referenc : IS 516 - 1959 RA 2018
Material descriptio : Kerb Stone - M_{15}
Date of Reciept of Sample : 23.06.2022
Date of testing : 23.06.2022

TEST RESULTS

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	81.50	0.410	2562.1	1.63	0.960	25.30	12.89	13.92	13.36	16.70
2	50.00	76.50	0.384	2556.47	1.53	0.960	27.41	13.96	15.08	14.47	18.09
3	50.00	78.50	0.399	2588.65	1.57	0.960	26.54	13.52	14.60	14.01	17.52

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON GRADATION OF GRANULAR SUB BASE
(Grading V)

RNC No. : RNC-BBMP-374-2021-22
Date. : 25.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015, MORTH Table 400-1
Material description : Granular Sub Base
Date of Reciept of Sample : 25.07.2022
Date of testing : 25.07.2022

TEST RESULTS

Total Wt. of Aggregates in gms 19832

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 400-1
75	-	0	0	100	100
53	531	531	2.68	97.32	80-100
26.5	2256	2787	14.05	85.95	55-90
9.5	4987	7774	39.20	60.80	35-65
4.75	3456	11230	56.63	43.37	25-50
2.36	6023	17253	87.00	13.00	10-20
0.85	7852	19082	96.22	3.78	2-10
0.425	2362	19615	98.91	1.09	0-5

Atterberg Limits (As per Table : 400-2)

Sl. No.	Particulars	Test Results	Standards as per Specifications
1	Liquid Limit, %	21.70	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

* Data specified by Contractor

Remarks: The above tested sample satisfies MORTH Specifications as per Table 400-1 & 2, Grading V

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RNC CONSULTANT

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TEST REPORT ON CONCRETE CUBES

RNC No. : RNC-BBMP-374-2021-22
Date. : 21.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division, BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{15}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.06.2022	21.07.2022	8.128	413.2	18.36
2	23.06.2022	21.07.2022	8.168	397.6	17.67
3	23.06.2022	21.07.2022	8.173	355.4	15.80

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON CONCRETE CUBES

RNC No. : RNC-BBMP-374-2021-22
Date. : 21.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division, BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{15}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.06.2022	21.07.2022	8.170	402.4	17.88
2	23.06.2022	21.07.2022	8.168	385.6	17.14
3	23.06.2022	21.07.2022	8.150	354.5	15.76

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON CONCRETE CUBES

RNC No. : RNC-BBMP-374-2021-22
Date. : 21.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division, BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{15}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.06.2022	21.07.2022	8.142	365.5	16.24
2	23.06.2022	21.07.2022	8.169	416.8	18.52
3	23.06.2022	21.07.2022	8.173	413.5	18.38

* Data specified by Contractor.

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PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON CONCRETE CUBES

SRCE No. : RNC-BBMP-374-2021-22
Date. :22.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division, BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{20}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.06.2022	22.07.2022	8.161	513.4	22.82
2	24.06.2022	22.07.2022	8.186	503.8	22.39
3	24.06.2022	22.07.2022	8.168	481.4	21.40

* Data specified by Contractor.

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TEST REPORT ON CONCRETE CUBES

SRCE No. : RNC-BBMP-374-2021-22
Date. :22.07.2022

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{20}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.06.2022	22.07.2022	8.155	531.8	23.64
2	24.06.2022	22.07.2022	8.165	526.8	23.41
3	24.06.2022	22.07.2022	8.195	515.7	22.92

* Data specified by Contractor.

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SRCE No. : RNC-BBMP-374-2021-22
Date. :22.07.2022

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{20}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.06.2022	22.07.2022	8.155	526.1	23.38
2	24.06.2022	22.07.2022	8.161	491.3	21.84
3	24.06.2022	22.07.2022	8.175	518.5	23.04

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{20}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.06.2022	22.07.2022	8.152	515.4	22.91
2	24.06.2022	22.07.2022	8.165	521.3	23.17
3	24.06.2022	22.07.2022	8.173	504.2	22.41

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 days
Grade of Concrete : M_{20}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.06.2022	22.07.2022	8.159	513.4	22.82
2	24.06.2022	22.07.2022	9.160	483.2	21.48
3	24.06.2022	22.07.2022	9.181	476.3	21.17

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.236	725.6	32.25
2	25.06.2022	23.07.2022	8.245	754.2	33.52
3	25.06.2022	23.07.2022	8.269	748.6	33.27

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.263	743.6	33.05
2	25.06.2022	23.07.2022	8.218	721.5	32.07
3	25.06.2022	23.07.2022	8.295	705.3	31.35

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.265	745.3	33.12
2	25.06.2022	23.07.2022	8.214	725.3	32.24
3	25.06.2022	23.07.2022	8.296	739.3	32.86

* Data specified by Contractor.

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***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.263	725.3	32.24
2	25.06.2022	23.07.2022	8.219	756.2	33.61
3	25.06.2022	23.07.2022	8.246	719.6	31.98

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.218	725.3	32.24
2	25.06.2022	23.07.2022	8.226	715.6	31.80
3	25.06.2022	23.07.2022	8.243	743.6	33.05

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.228	712.3	31.66
2	25.06.2022	23.07.2022	8.253	742.9	33.02
3	25.06.2022	23.07.2022	8.278	708.4	31.48

* Data specified by Contractor.

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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.234	705.6	31.36
2	25.06.2022	23.07.2022	8.229	716.8	31.86
3	25.06.2022	23.07.2022	8.257	689.4	30.64

* Data specified by Contractor.

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SRCE No. : RNC-BBMP-374-2021-22
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Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 516 - 1959 RA 2018
Material description : Cement Concrete
Age of Concrete : 28 Days
Grade of Concrete : M_{30}

TEST RESULTS

Sl.No / Identification	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2022	23.07.2022	8.234	705.6	31.36
2	25.06.2022	23.07.2022	8.229	716.8	31.86
3	25.06.2022	23.07.2022	8.257	689.4	30.64

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON GRADATION OF WET MIX MACADAM

RNC No. : RNC-BBMP-374-2021-22
Date. : 26.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015, MORTH Table 400-13
Material description : Wet Mix Macadam
Date of Reciept of Sample : 26.07.2022
Date of testing : 26.07.2022

TEST RESULTS

Total Wt. of Aggregates in gms 17125

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 400-13
53	0	0	0	100	100
45	512	512	2.99	97.01	95-100
22.4	3520	4032	23.54	76.46	60-80
11.2	3155	7187	41.97	58.03	40-60
4.75	3528	10715	62.57	37.43	25-40
2.36	2856	13571	79.25	20.75	15-30
0.6	1540	15111	88.24	11.76	8-22
0.075	1645	16756	97.85	2.15	0-5

* Data specified by Contractor.

Remarks: The above tested sample satisfies MORTH Specifications as per Table 400-13

Notes:-

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PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON AGGREGATE IMPACT VALUE

RNC No. : RNC-BBMP-374-2021-22
Date. : 26.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-4)- 1963 RA 2016, MORTH table 500-10
Material description : Dense Graded Bituminous Macadam
Date of Reciept of Sample : 26.07.2022
Date of testing : 26.07.2022

TEST RESULTS

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	386	388	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	81	85	89	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	301	299	
4	Aggregate Impact value = percent fines	21.04	22.02	22.94	
	100* (W_2/W_1)%				22.00

* Data specified by Contractor.

Remarks : Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27%

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Total Wt. of Aggregates in gms 477.5

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-10
37.5	0	0	0	100	100
26.5	41.52	41.52	8.70	91.30	90 - 100
19	66.2	107.72	22.56	77.44	71 - 95
13.2	42.9	150.62	31.54	68.46	56 - 80
4.75	132.7	283.32	59.33	40.67	38 - 54
2.36	54.8	338.12	70.81	29.19	28 - 42
0.3	66.7	404.82	84.78	15.22	7 - 21
0.075	62.8	467.62	97.93	2.07	2 - 8

Total Wt. of Aggregates in gms 475.5

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-10
37.5	0	0	0	100	100
26.5	33.8	33.8	7.11	92.89	90 - 100
19	72.9	106.7	22.44	77.56	71 - 95
13.2	35.8	142.5	29.97	70.03	56 - 80
4.75	148.2	290.7	61.14	38.86	38 - 54
2.36	23.8	314.5	66.14	33.86	28 - 42
0.3	99.2	413.7	87.00	13.00	7 - 21
0.075	34.8	448.5	94.32	5.68	2 - 8

* Data specified by Contractor.

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON AGGREGATE IMPACT VALUE

RNC No. : RNC-BBMP-374-2021-22
Date. : 27.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division (PACKAGE NO-07)
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 500-17
Material description : Bituminous Concrete
Date of Reciept of Sample : 27.07.2022
Date of testing : 27.07.2022

TEST RESULTS

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	387	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	86	87	88	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	300	298	
4	Aggregate Impact value = percent fines	22.34	22.48	22.80	
	100* (W_2/W_1)%				22.54

* Data specified by Contractor.

Remarks: Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%

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RNC CONSULTANT

PROJECT MANAGEMENT & CONSULTANCY SERVICES

TEST REPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

RNC No. : RNC-BBMP-374-2021-22
Date. : 27.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 500-17
Material description : Bituminous Concrete
Date of Reciept of : 27.07.2022
Date of testing : 27.07.2022

TEST RESULTS

Total Wt. of Sample = 2000 gms

Sl. No.	Description	Notation	Test Result	
			Trail 1	Trail 2
1	Weight of Aggregate Suspended in water with the Basket (in gms)	A1	3728.0	3726.0
2	Weight of Empty Basket suspended in Water (in gms)	A2	2456.0	2458.0
3	Weight of Saturarted aggregate in water (in gms) = (A1-A2)	A	1272.0	1268.0
4	Weight of saturated surface dry aggregate in air (in gms)	B	2018.0	2019.0
5	Weight of oven dry Aggregate (in gms)	C	2008.0	2009.0

Result : 1. Specific gravity = (C/B-A) — 2.69 — 2.68
2. Water Absorption in Percentage = (B-C*100/C) — 0.50 — 0.50

• Data specified by Contractor

Remarks: Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

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TEST REPORT ON BITUMEN CONTENT AND GRADATION FOR BITUMINOUS CONCRETE

RNC No. : RNC-BBMP-374-2021-22
Date. : 28.07.2022

Client Name : **Assistant Executive Engineer,** Yelahanka Sub division BBMP, Bangalore.
***Contractor Name** : **Sri. Mohan Kumar SR,** Contractor, Bangalore.
Project Name : Restoration and Improvements of Balance roads of Brundhavana layout, Balaji layout, BHEL 1st phase and 2nd phase layout, Lakshmaiahreddy layout, Naidu layout, Jyothinagara 2nd and 3rd phase, Ramanna garden and surrounding areas in ward no -03 of Yelahanka New town Sub division
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015, AASHTO T 164 & AASHTO T 30 & MORTH
Material description : Bituminous Concrete
Date of Reciept of Sample : 28.07.2022
Date of testing : 28.07.2022

TEST RESULTS

BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	470	469
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	30.00	31.00
7. Bitumen content in %	6.00	6.20
8. Average	6.10	

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